

Work Order ID 163063

Wednesday, June 21, 2017 10:08:51 AM

163063

Page 1

Item ID: D350-591-121 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/26/2017 Start Qty: 4.00 *4*3
 Required Date: 7/7/2017 Req'd Qty: 4.00 *4*3
 Cust Item ID:
 Customer:

Reference:

Approvals: Process Plan:  Date: JUN 21 2017 Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
D2351-041	Rev E								
IIN-D350-591	H								
100	Document Control	0.00							
100	DOCUMENT CONTROL	0.00							
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile and type labels as per PPP D350-591-121 CHG005								

110	Large Fab	0.00							
110									
Large Fab	Memo	1.56							
Large Fab	1-Cut D2244-116 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G								
	2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.								
	3-Deburr								

B#163063 x3 LH

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
DART E CO-P				PAC 8 08-9				Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER : _____									

Work Order ID 163063***163063***

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Wednesday, June 21, 2017 10:08:51 AM

Item ID: D350-591-121**Accept*****N900040100*****Setup Start*****NS1*****Revision ID:****Stop *NS2*****Item Name:** Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible**Start Date:** 6/26/2017 **Start Qty:** 4.00***4*****Cust Item ID:****Required Date:** 7/7/2017 **Req'd Qty:** 4.00***4*****Customer:****Reference:****Approvals:****Process Plan:** _____**Date:** _____**Tooling:** _____**Date:** _____**Run Start*****NR1*****QC:** _____**Date:** _____**SPC (Y/N):** _____**Date:** _____**Stop*****NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID****Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**

120

1.06

120

CNC Bend 1

BENDING MACHINE - SKIDTUBES

Memo

1.24

CNC Delta 100 Bender

Bend as per Dwg D2351-041 using CNC Bender 1 and Folio 27. Use Bend Program D2351-041.

4 MAG 17/06/22

130

0.00

130

QC

QC5- Inspect part completeness to step on W/O

Memo

0.08

Quality Control

4x DAS 43 9-89 JUN 23 2017

140

0.00

140

Large Fab

Weld per dwg A/R Aluminum rod Batch: 1131562

Large Fab

Memo

1.32

Large Fab

1-Bevel Fwd and Aft end for welding

2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig DT8033
A/RAluminum Rod 1131562

3-Do not Grind top edge Flush

4x DAS 43 9-89 JUN 23 2017

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WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐																																																																

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER : ☐									

Work Order ID 163063

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Item ID: D350-591-121 Accept

Revision ID:

Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/26/2017 Start Qty: 4.00 *4*

Required Date: 7/7/2017 Req'd Qty: 4.00 *4*

Reference:

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 *180* QC Quality Control	QC7-Inspect Chemical Conversion Coat Memo	0.00 0.04				4			DAS 24 9-89 JUL 04 2017
190 *190* Large Fab Large Fab	Weld per dwg A/R Aluminum rod Batch: _____ Large Fab Memo 1-Rivet Leg Assembly as per Dwg D2351 2-Weld Fwd End Plate per QSI 004 & Dwg D2351 A/R Aluminum Rod M136158 3-Grind end cap flush per dwg D2351	0.00 1.28							DAS 24 9-89 X4 S.L 2017.07.04 JUL 04 2017
220 *220* QC Quality Control	QC10- Inspect visual per QSI004- ground welds Memo	0.00 0.00				4			DAS 38 9-89 JUL 05 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

Work Order ID 163063

Wednesday, June 21, 2017 10:08:51 AM

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Item ID: D350-591-121 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible
Start Date: 6/26/2017 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 7/7/2017 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230 *230* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.08				4			DAS 38 JUL 05 2017
240 *240* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.35				4		JUL 04 2017	DAS 24 9-89
250 *250* Powdercoat Powder Coating	White Gloss (Ref 4.3.5.1) per QSI005 4.3-Alum <i>M/B 176</i> Memo START TIME: <i>11:20</i> OVEN TEMPERATURE: <i>200°</i> FINISH TIME: <i>11:50</i>	0.00 0.71				4		<i>17076</i>	DAS 34 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER :			
Misidentified ☐	Past Due ☐																																																																

Work Order ID 163063

Wednesday, June 21, 2017 10:08:51 AM

163063

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Item ID: D350-591-121

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/26/2017 Start Qty: 4.00 ***4***

Cust Item ID:

Required Date: 7/7/2017 Req'd Qty: 4.00 ***4***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

260

Wing Walk as per dwg QSI005 4.4 Batch 113746 0.00***260***

HandFinish

Memo

1.36

Hand Finishing

270

QC3- Inspect Part Finish 0.00

270

QC

Memo

0.04

Quality Control

280

Pick Kit 0.00

280

Packaging

Memo

0.04

Packaging

P.T.O.

JUL 07 2017

JUL 10 2017

DQA:

Date:

2017-07-21



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

JUL 19 2017

Work Order update only ☐

Work Order: <u>163063</u>		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. <u>D350-591-121</u>		Rework ☐		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No. <u>17-6588</u>		Scrap ☒		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☒	Composite ☐	Supplier ☐			
Date: <u>17.07.06</u>		Step #: <u>260</u>		QTY Effective: <u>(1)</u>			MRB (QSI042) Approval		
							DAS 9 9-89 <u>17.07.06</u>		
Description Work Order Deviation				Disposition					
After paint ply of 1 step was found to have excessive crushing at the bend area, and cause the top of the step to be uneven and the inside bend showed some marking caused by the crushing. 2.C. Material. Operator inform qc. that he had trouble with that step and had to run it twice thru the bender to get the proper bend, which might have cause this step to be crush. In addition that crushing was not visible before paint.				scrap destroy. no replace				Completed By DAS 38 9-89 JUL 17 2017	
								Lead hand / Supervisor Approval Verification DAS 38 9-89 JUL 17 2017	
								QC / QA Coordinator Approval DAS 9 9-89 17.07.06	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☒	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	☒ Crushing	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Work Order ID 163063***163063***

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Item ID: D350-591-121 **Accept** ***N900040100*** **Setup Start** ***NS1***
Revision ID: **Stop** ***NS2***
Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible
Start Date: 6/26/2017 **Start Qty:** 4.00 ***4*** **Cust Item ID:**
Required Date: 7/7/2017 **Req'd Qty:** 4.00 ***4*** **Customer:**
Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start** ***NR1***
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
290	QC4- 100% Inspect kits for completeness	0.00							
290 QC Quality Control	Memo	0.12				③	1707.11		Ⓚ
300	Identify as per dwg & Stock Location: _____	0.00							
300 Packaging	Memo	0.00				3			DAS 27 8-89
Packaging	Identify and pack for shipping as per PPP D350-591-121 Location: FG039								JUL 11 2017
310	QC21- Final Inspection - Work Order Release	0.00							
310 QC Quality Control	Memo	0.40							17/7/13 Ⓜ

UL 7.07.12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

Picklist Print

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Work Order ID: 163063

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Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/26/2017

Required Date: 7/7/2017

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:E02.10.21Re-format; Incorporated D2351-041 IPPKJ/RF
IPP rev. F 06.02.23 added grinding EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2244-116 *D2244-116* Step Extrusion		Manufactured	No			110	Each	50.5000	0.5	2.105263		DAS 43 9-89	JUN 23 2017
					<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>						
					WA003	50.4999632							
					150064	50.5							
D2850-1 *D2850-1* End Bracket		Manufactured	No			140	Each	15.0000	1	4		DAS 43 9-89	JUN 23 2017
					<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>						
					WA003	15							
					149901	15							
D2582 *D2582* Hi-Skid Step Leg Assembly		Manufactured	No			190	Each	12.0000	1	4			
					<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>						
					WA003	12							
					157228	3							
					159028	9							

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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OTHER : _____																																																																							

Picklist Print

Wednesday, June 21, 2017 10:08:51 AM

Page 2

Work Order ID: 163063

163063

Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/26/2017

Required Date: 7/7/2017

Start Qty: 4.00

Required Qty: 4.00

MS20600-AD4W3

Purchased

No

190

Each

458.0000

16

64

MS20600-AD4W3

Cherry Rivet

**

2017-07-05

Location

Loc Qty

Loc Code

CCK004

300

m137412

300

ST308

98

m135603

98

WA003

60

m136648

60

D2673-34

Manufactured

No

210

Each

105.0000

1

4

D2673-34

End Plate

**

B160473 SL 2017-07-03

Location

Loc Qty

Loc Code

WA003

105

160473

105

AN4-16A

Purchased

No

290

Each

206.0000

2

68

AN4-16A

Bolt

**

JUL 10 2017 6 9-89 DAS 27 9-89

DAS 9 9-89

Location

Loc Qty

Loc Code

FG

5

121541

5

ST343

201

M136986

1

M137507

200

6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
240								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
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163063

Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/26/2017

Required Date: 7/7/2017

Start Qty: 4.00

Required Qty: 4.00

NAS1149D0463J

Purchased

No

290

Each

3,889.000

6 **18 24**

NAS1149D0463.I

Washer

DAS
9
9-89

Location

Loc Qty

Loc Code

GA

40

M135056

40

ST260a

2000

M137699

2000

ST263

1849

M137371

1849

D2230-1

Manufactured

No

290

Each

3.0000

1 **3+**

D2230-1

Mounting Lug

DAS
9
9-89

Location

Loc Qty

Loc Code

FG

2

150062

2

ST521

1

115306

1

AN3-37A

Purchased

No

290

Each

108.0000

2 **68**

AN3-37A

Bolt

DAS
9
9-89

Location

Loc Qty

Loc Code

FG

10

119086

10

over003

30

m136983

30

ST347

68

m136554

18

m137587

50

DAS
6
9-89 **JUL 10 2017** **DAS**
27
9-89

DAS
6
9-89 **JUL 10 2017** **DAS**
27
9-89

DAS
6
9-89 **JUL 10 2017** **DAS**
27
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/26/2017

Required Date: 7/7/2017

Start Qty: 4.00

Required Qty: 4.00

MS21042L3

Purchased

No

290

Each

1,707.000

2

MS21042L3

Nut

**

DAS
9
9-89

Location

Loc Qty

Loc Code

FP001

79

m135945

79

GA

394

m134360

102

M136665

292

OVER007

500

m134360

0

m137886

500

ST303

734

m137495

14

m137680

720

JUL 1 11 2017

DAS
27
9-89

AN4-13A

Purchased

No

290

Each

500.0000

AN4-13A

Bolt

DAS
10
9-89

Location

Loc Qty

Loc Code

FG

20

122808

20

GA

68

m134634

19

m135470

49

over003

350

m137680

100

m137886

250

ST344

62

m137544

62

JUL 1 11 2017

DAS
27
9-89

Qty of
1 on Bldg File

DAS
9
9-89

DQA:

Date:

2017-07-21



QA Closed:

Date:

JUL 24 2017

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: <u>163063</u> Part No. <u>D350-591-121</u> NCR No. <u>17-6552</u>		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☒</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☒	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Large Fab ☐	Composite ☐	Supplier ☐																					
Date: <u>17-07-11</u>		Step #: <u>280</u>		QTY Effective: <u>3</u>		MRB (QSI042) Approval <u>PD 17-07-11</u>																	
Description Work Order Deviation <u>AU4-13A Qty on work order doesn't match blue file</u>				Disposition <u>change Qty to match blue file</u> <u>DAS 27</u> <u>9-88</u> <u>Make correction on BOM.</u> <u>(Qty was not also revise for -122, -123, -124)</u>				Completed By <u>9-88</u> <u>17-07-11</u>															
				Lead hand / Supervisor Approval Verification <u>PD 17-07-11</u>																			
				QC / QA Coordinator Approval <u>PD 17-07-11</u>																			
Root Cause <table style="width:100%; border: none;"> <tr> <td style="width:50%;"> Environment ☐ Design ☐ Doc/Data ☒ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ </td> <td style="width:50%;"> No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ </td> </tr> </table>		Environment ☐ Design ☐ Doc/Data ☒ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	FAULT CATEGORY <table style="width:100%; border: none;"> <tr> <td style="width:33%;"> Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ </td> <td style="width:33%;"> Temperature/Cure ☐ Set-up ☐ ☒ BOM/Route Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ </td> <td style="width:33%;"> Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ </td> <td style="width:33%;"> Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐ </td> </tr> </table>						Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ ☒ BOM/Route Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐										
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		OTHER: ☐																					

Picklist Print

Wednesday, June 21, 2017 10:08:51 AM

Page 5

Work Order ID: 163063

163063

Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/26/2017

Required Date: 7/7/2017

Start Qty: 4.00

Required Qty: 4.00

MS21042L4

Purchased No

290

Each

2,331.000

3 912

MS21042L4

Nut

DAS
9
9-89

Location

Loc Qty

Loc Code

FP001

10

m133363

10

GA

51

m135058

51

OVER007

1400

m137402

400

m137680

1000

ST303

870

m137544

870

**

DAS
6
9-89

JUL 11 2017
DAS
27
9-89

D2230-3

Manufactured No

290

Each

51.0000

1 34

D2230-3

Mounting Lug

DAS
9
9-89

Location

Loc Qty

Loc Code

FG

4

109344

4

ST521

47

158093

3

158455

44

**

DAS
6
9-89

JUL 11 2017
DAS
27
9-89

D2732-030

Manufactured No

290

Each

250.0000

2 68

D2732-030

Rubber Cushion - 3"

DAS
9
9-89

Location

Loc Qty

Loc Code

FG

100

158347

100

ST410

150

162073

150

**

DAS
6
9-89

JUL 11 2017
DAS
27
9-89

cut (2) at 3.00"

Wednesday, June 21, 2017 10:08:51 AM

Shop Packet Print

Page 5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date : _____		Step # : _____		QTY Effective : _____			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

Picklist Print

Wednesday, June 21, 2017 10:08:51 AM

Work Order ID: 163063

163063

Parent Item: D350-591-121

D350-591-121

Parent Item Name: Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible

Start Date: 6/26/2017

Required Date: 7/7/2017

Start Qty: 4.00

Required Qty: 4.00

NAS1149D0363J

Purchased

No

290

Each

746.0000

4

16-10

NAS1149D0363.J

Washer

**

JUL 10 2017

DAS
6
9-89

DAS
27
9-89

DAS
9
9-89

Location

Loc Qty

Loc Code

GA

43

m134055

13

m137164

30

ST263

703

m137587

703

10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : _____			



DESIGN KE	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED H	APPROVED H	DRAWING NO. D2351	REV. E SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE NTS
A	95.02.15	NEW ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	98.12.17	CHANGED TO BEND, D2850 REPLACES D2357 & D2358, INCORP. DEO 9084	
E	05.11.14	UPDATE FINISHING NOTE	

D2351 HIGH FLOAT STEP ASSEMBLY PARTS LIST

Part No.	Description	QTY -041	QTY -042
D2351-041	High Float Step Assembly (LH)	X	
D2351-042	High Float Step Assembly (RH)		X
D2244-55.4	STEP EXTRUSION*	1	1
D2582	STEP LEG ASSEMBLY	1	1
D2673-34	STEP END PLATE	1	1
D2850-1	END BRACKET	1	
D2850-2	END BRACKET		1
MS20600AD4W3	RIVETS	16	16

*cut per drawing

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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 163005
JUN 21 2017

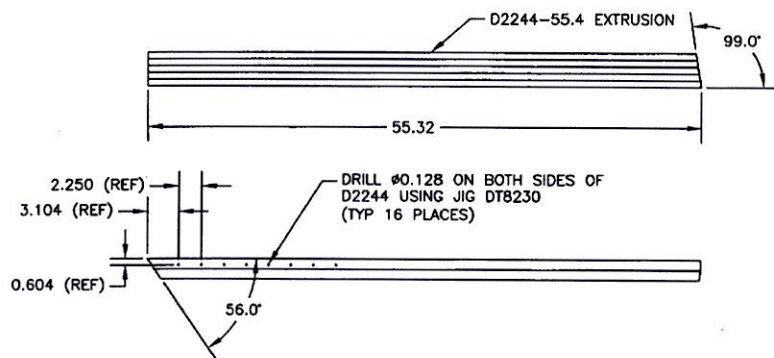
RELEASED
05.11.28

PH
ECN 1105
UNDER REVIEW
07.11.29
P22-1105-263

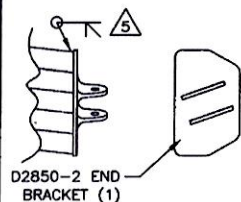
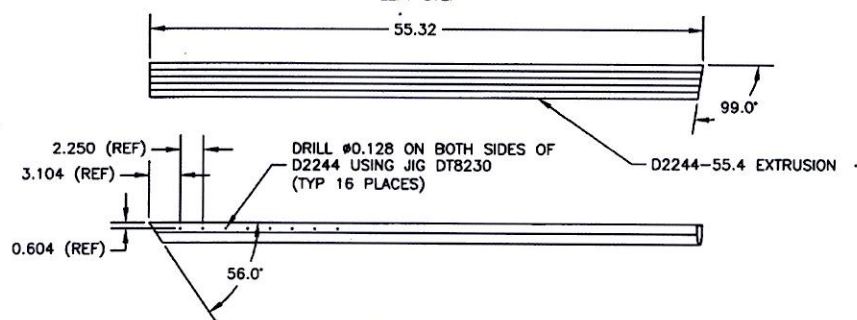
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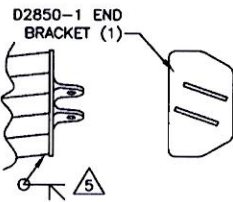
D2351-2 CUTTING/DRILLING DETAIL
RIGHT STEP



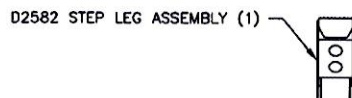
D2351-1 CUTTING/DRILLING DETAIL
LEFT STEP



DETAIL A
SCALE: 1:4



DETAIL B
SCALE: 1:4

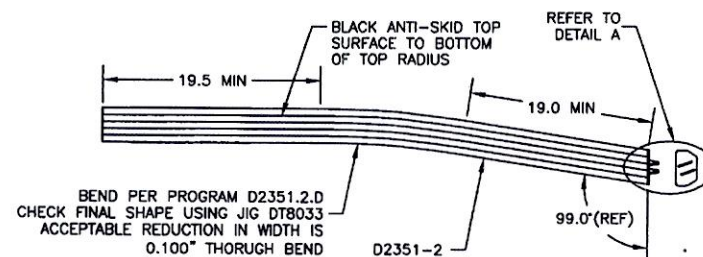


GENERAL NOTES

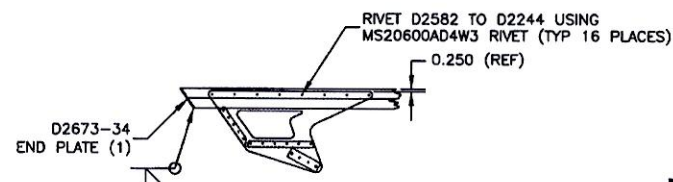
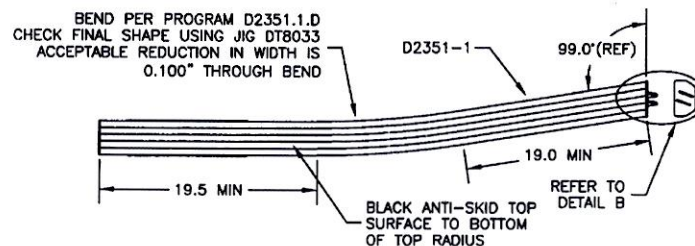
- 1) WELD PER DART QSI 004
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

5 CHAMFER D2244 EXTRUSION 0.075"x45" BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

D2351-042 BENDING/ASSEMBLY DETAIL
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL
LEFT STEP



RELEASED
05.11.28

UNDER REVIEW

PH
ELU 1105

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DESIGN KE	DRAWN BY PH	DART	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D2351	REV. E SHEET 2 OF 2
DATE 05.11.14	TITLE HIGH FLOAT STEP ASSEMBLY	SCALE 1:12	

5.0 PARTS LIST

DAS
9
9-89

Qty -117A	Qty -119	Qty -133	Part Number	Description
X			D350-591-117A	<i>Hel-Access-Step</i> ™, Pre-Flight Step
	X		D350-591-119	<i>Hel-Access-Step</i> ™, Long Step – Low Skid
		X	D350-591-133	<i>Hel-Access-Step</i> ™, Aft Maintenance Step
	1		D2355	STEP ASSEMBLY (LOW-LONG)
		1	D2046-041	STEP ASSEMBLY (MAINTENANCE)
2	2		D2171	CLAMP
2	2		D2182B035	CUSHION
		4	D2230-1	MOUNTING LUG
		4	D2230-3	MOUNTING LUG
4	4		D2274	RADIUS BLOCK
1			D2362-041	SUPPORT BRACKET
	1		D2362-3	SUPPORT BRACKET
		1	D2945	MOUNTING PLATE
1	1		D3595-200-300	CUSHION
		8	D2732-030	CUSHION
	2		AN3-37A	BOLT
		2	AN4-7A	BOLT
		4	AN4-11A	BOLT
		8	AN4-16A	BOLT
	4		AN4-21A	BOLT
4	1		AN4-22A	BOLT
	4		NAS1149D0363J	WASHER (AN960JD10)
4	6	14	NAS1149D0463J	WASHER (AN960JD416)
	2		MS21042L3	NUT
4	5	14	MS21042L4	NUT

Qty -121	Qty -122	Qty -123	Qty -124	Part Number	Description
X				D350-591-121	<i>Hel-Access-Step</i> ™, Short Step – High Skid, LH
	X			D350-591-122	<i>Hel-Access-Step</i> ™, Short Step – High Skid, RH
		X		D350-591-123	<i>Hel-Access-Step</i> ™, Short Step – Low Skid, LH
			X	D350-591-124	<i>Hel-Access-Step</i> ™, Short Step – Low Skid, RH
1				D2351-041	STEP ASSEMBLY (HIGH-SHORT, LH)
	1			D2351-042	STEP ASSEMBLY (HIGH-SHORT, RH)
		1		D2356-041	STEP ASSEMBLY (LOW-SHORT, LH)
			1	D2356-042	STEP ASSEMBLY (LOW-SHORT, RH)
1	1	1	1	D2230-1	MOUNTING LUG
1	1	1	1	D2230-3	MOUNTING LUG
2	2	2	2	D2732-030	CUSHION
2	2	2	2	AN3-37A	BOLT
1	1	1	1	AN4-13A	BOLT
2	2	2	2	AN4-16A	BOLT
4	4	4	4	NAS1149D0363J	WASHER (AN960JD10)
6	6	6	6	NAS1149D0463J	WASHER (AN960JD416)
2	2	2	2	MS21042L3	NUT
3	3	3	3	MS21042L4	NUT

5/2 of
3 on w/o →

Work Order ID 163063***163063***

Page 1

Wednesday, June 21, 2017 10:08:51 AM

Item ID: D350-591-121**Accept*****N900040100*****Setup Start *NS1*****Revision ID:****Stop *NS2*****Item Name:** Heli-Access-Step™ LH - High Gear, Short Step, Float Compatible**Start Date:** 6/26/2017 **Start Qty:** 4.00**Required Date:** 7/7/2017 **Req'd Qty:** 4.00**Cust Item ID:****Customer:****Reference:**

JUN 21 2017

Approvals:**Process Plan:****Date:****Tooling:****Date:****Run Start *NR1*****QC:****Date:****SPC (Y/N):****Date:****Stop *NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID****Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp****Draw Nbr****Revision Nbr**

D2351-041

Rev E

IIN-D350-591

H

JUL 10 2017

100

Document Control

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile and type labels as per PPP D350-591-121 CHG005

110

0.00

110

Large Fab

Large Fab

Memo

1.56

Large Fab

1-Cut D2244-116 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

3-Deburr

4x DML 2017-06-21
JL